

## Attachment H

## COVER SHEET (PAGE 1 of 2)

## May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Proposal Title: Expanding California Salmon Habitat Through Non-governmental and  
 Applicant Name: Nonregulatory Mechanisms to Alter Dams and Diversions  
 Mailing Address: Institute for Fisheries Resources P.O. Box 29196, San Francisco, CA  
 Telephone: 415-561-5080 94129-0196  
 Fax: 415-561-5464

Amount of funding requested: \$ 49,000 for 1 years

Indicate the Topic for which you are applying (check only one box). Note that this is an important decision: see page    of the Proposal Solicitation Package for more information.

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Fish Passage Assessment                               | <input type="checkbox"/> Fish Passage Improvements    |
| <input type="checkbox"/> Floodplain and Habitat Restoration                               | <input type="checkbox"/> Gravel Restoration           |
| <input type="checkbox"/> Fish Harvest   | <input type="checkbox"/> Species Life History Studies |
| <input type="checkbox"/> Watershed Planning/Implementation                                | <input type="checkbox"/> Education                    |
| <input type="checkbox"/> Fish Screen Evaluations - Alternatives and Biological Priorities |   |

Indicate the geographic area of your proposal (check only one box):

- |  |   |
|--|---|
| <input type="checkbox"/> Sacramento River Mainstem                         | <input type="checkbox"/> Sacramento Tributary: <u>                    </u>      |
| <input type="checkbox"/> Delta   | <input type="checkbox"/> East Side Delta Tributary: <u>                    </u> |
| <input type="checkbox"/> Suisun Marsh and Bay                              | <input type="checkbox"/> San Joaquin Tributary: <u>                    </u>     |
| <input type="checkbox"/> San Joaquin River Mainstem                        | <input type="checkbox"/> Other: <u>                    </u>                     |
| <input checked="" type="checkbox"/> Landscape (entire Bay-Delta watershed) | <input type="checkbox"/> North Bay: <u>                    </u>                 |

Indicate the primary species which the proposal addresses (check no more than two boxes):

- |  |   |
|--|---|
| <input type="checkbox"/> San Joaquin and East-side Delta tributaries fall-run chinook salmon |   |
| <input checked="" type="checkbox"/> Winter-run chinook salmon                                | <input checked="" type="checkbox"/> Spring-run chinook salmon |
| <input type="checkbox"/> Late-fall run chinook salmon  | <input type="checkbox"/> Fall-run chinook salmon              |
| <input type="checkbox"/> Delta smelt   | <input type="checkbox"/> Longfin smelt                        |
| <input type="checkbox"/> Splittail   | <input type="checkbox"/> Steelhead trout                      |
| <input type="checkbox"/> Green sturgeon  | <input type="checkbox"/> Striped bass                         |
| <input type="checkbox"/> Migratory birds   |   |

COVER SHEET (PAGE 2 of 2)

May 1998 CALFED ECOSYSTEM RESTORATION PROPOSAL SOLICITATION

Indicate the type of applicant (check only one box):

- |  |  |
|--|--|
| <input type="checkbox"/> State agency                    | <input type="checkbox"/> Federal agency        |
| <input type="checkbox"/> Public/Non-profit joint venture | <input checked="" type="checkbox"/> Non-profit |
| <input type="checkbox"/> Local government/district       | <input type="checkbox"/> Private party         |
| <input type="checkbox"/> University                      | <input type="checkbox"/> Other: _____          |

Indicate the type of project (check only one box):

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> Planning | <input type="checkbox"/> Implementation |
| <input type="checkbox"/> Monitoring          | <input type="checkbox"/> Education      |
| <input type="checkbox"/> Research            |   |

By signing below, the applicant declares the following:

- (1) the truthfulness of all representations in their proposal;
- (2) the individual signing the form is entitled to submit the application on behalf of the applicant (if applicant is an entity or organization); and
- (3) the person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section II.K) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

William T. Dwyer  
(Signature of Applicant)

## **II. Executive Summary**

a. Project Title and Applicant Name: Expanding California Salmon Habitat Through Non-governmental and Nonregulatory Mechanisms to Alter Dams and Diversions  
Applicant: Institute for Fisheries Resources (IFR)

b. Project Description and Primary Biological/Ecological Objectives. This proposal seeks funds in the amount of 41% of the total cost to match funds already awarded and pending (59%).

In the last year, an unprecedented window of opportunity has opened for CALFED adaptive management in the restoration of the Bay-Delta and Central Valley fish passages in particular. The restructuring of the electric industry in California has completely changed the role of hydroelectric facilities such that their market value has been significantly changed and many will be on the market for sale. For example, just PG&E and Southern California Edison presently own 127 dams, most of which will be available from a willing seller within the next two years. Other owners are also likely to be interested in selling or at least in creating new management regimes with an appropriate partner. The first cases will set the regulatory and market precedent for the dozens that will follow. Within this very narrow window of opportunity, there is presently no organized or systematic way to incorporate acquisition or reconsideration of operating parameters as part of CALFED. There is no mechanism to incorporate these profound changes in the hydroelectric picture into the Primary Biological/Ecological Objectives in general and with respect to improving fish passage opportunities in particular.

The opportunity to improve dramatically fish passage, the success rate of restoration projects, expand habitat, and improve stream flows, natural sediment transport, etc., can be enhanced through new nongovernmental and nonregulatory partnerships. But, the tremendous opportunity these new conditions create for public-private partnerships may be lost unless the opportunities are organized and an appropriate institutional mechanism is created to enter into agreements to acquire or to partner with the willing electric companies in a timely manner.

The sale of these hydroelectric assets will be subject to scrutiny and possible regulation by State agencies and FERC. But, the role of the agencies will be limited essentially to an ex-post facto reactive and regulatory posture, rather than the more pro-active constructive role that is available as a facilitator or even partner in the restructuring of the ownership and operation of the dams.

This project will draw on actual experience to: (1) document the opportunity with a complete inventory of all dams and diversions in the Central Valley which are candidates for acquisition from a willing seller and major modification in the next few years, (2) develop a systematic "template" that can be used to analyze the biological, technical, institutional-legal, and economic aspects of acquisition and/or major modification for all present and future projects, (3) develop a non-governmental and nonregulatory institutional mechanism to purchase some or all of the rights to projects with fair compensation to willing sellers, and (4) conduct community and professional workshops for peer review and community involvement.

The Primary Biological/Ecological Objectives served are two-fold: (1) Immediate objectives resulting from assistance on specific Central Valley projects (e.g., Battle Creek and Butte Creek), and (2) Broader benefits to the communities, interest groups, and professionals working on the

biological/ecological issues associated with dams/diversions and restoration projects during the next few years when most of the privately owned dams will be available for acquisition, removal, or major modification.

c. Approach/Tasks/Schedule. One year according to the following eight tasks/schedule:

Task	Description	Schedule (after Award)
1	Document the Opportunity	1 month
2	Inventory Candidate Sites	3 months
3	Develop Template and Analyze Key Issues	5 months
4	Implementing Mechanism	6 months
5	Demonstrate Mechanism	7 months
6	Community Workshops	8 months
7	Agency Advisory Committee	Concurrent with Tasks 1-6
8	Peer Reviews and Workshop	11 months

d. Justification for Project and Funding by CALFED. This project will develop a cost effective mechanism to leverage state and federal funds to improve fish passage and enhance the success of many of the other Ecological Zone Visions, Programmatic and other Action items in the ERPP, AFRP, etc. (see Figures 1 and 2 below). The project compliments CMARP and many of the other CALFED projects. The project is timely and urgent, while the benefits are immediate and long term. The project complies with NEPA/CEQA, does not prejudice any decision on the CALFED long-term program, involves only willing sellers, and makes full use of cost sharing (59% of the total cost comes from other sources).

e. Budget Costs and Third Party Impacts. \$49,000 of the total project cost of \$120,000.

f. Applicant Qualifications. IFR has successfully managed a large number of projects pertaining to the California fisheries, salmon restoration projects, and other fisheries improvement projects. At the present time, IFR has active salmon restoration projects on Battle Creek and Butte Creek. The background of the key personnel is included in Appendix A.

g. Monitoring and Data Evaluation. Formal coordination with other projects. An Agency Advisory Committee, community participation workshops, and formal peer reviews. There is no similar project underway.

h. Local Support/Coordination with other Programs/Compatibility with CALFED objectives. This project is being coordinated with local and regional projects. In particular, the ongoing restoration projects on Battle Creek and Butte Creek will be case studies for this project and the groups involved will receive the deliverables from this project as soon as they become available. In addition, a Technical Advisory Committee of state and federal government representatives and local and regional interest groups will provide ongoing advice and coordination. The agencies that have already agreed to participate include the California Public Utilities Commission and the Department of Fish and Game. The project is both consistent with and promotes the success of CALFED objectives, discussed below.

**III. Title Page**

- a. **Title of Project:** **Expanding California Salmon Habitat Through Non-governmental and Nonregulatory Mechanisms to Alter Dams and Diversions**
- b. **Name of applicant/principle investigator(s):** Institute for Fisheries Resources  
Principal Investigator: Dr. Guy D. Phillips  
P.O. Box 29196  
San Francisco, CA 94129-0910  
Phone: 415-561-5080  
Fax: 415-561-5464  
email: fish4ifr@aol.com
- c. **Type of organization and Tax Status:** 501(c)(3)
- d. **Tax Identification Number and/or Contractor license, as applicable:** 94-3176524
- e. **Participants/Collaborators in Implementation:**

Department of Fish and Game  
National Marine Fisheries Service  
U.S. Fish & Wildlife Service  
California Public Utilities Commission  
Federal Energy Regulatory Commission  
Comprehensive Monitoring and Research Program (CMARP)  
Battle Creek Working Group  
Butte Creek Conservation Project  
The Nature Conservancy  
Cal Trout  
The California Hydropower Reform Coalition

#### IV. Project Description

##### a. Project Description and Approach

The project has five basic features: (1) document the extent, timing, and financing of the opportunity for acquisition/modification of private dams from willing sellers, (2) identify candidate Central Valley sites, (3) develop a template for analysis and resolution of issues for use by the public and agencies for all potential sites, (4) develop a private sector mechanism to acquire dams from willing sellers, and (5) conduct community and peer review workshops.

##### b. Proposed Scope of Work

**Task 1 Document the Opportunity:** Document the opportunity for ownership changes and corresponding operating modifications at private dams/diversions. Analyze the results of ongoing projects to demonstrate the opportunity for salmon restoration and other benefits that can be derived from major physical modifications at private dams/diversions. The Battle Creek, Butte Creek, White Salmon River (Washington), and Elwha River (Washington), Rogue River (Oregon), the Kennebec River (Maine), and other projects will be used as demonstrations where major modifications are being made. Identify key issues, opportunities, and data requirements. Each perspective will be evaluated including, for example:

- salmon fisheries restoration and management opportunities and issues
- opportunities and issues associated with other species and habitat
- overall watershed management impacts and issues
- economic impacts, considerations, opportunities, and issues
- legal-institutional aspects, including existing contracts and financial commitments
- water supply issues and opportunities

**Deliverable.** A matrix which presents the technical, legal-institutional, and economic aspects of major physical modifications, including potential removal, of private dams/diversions.

**Schedule.** This task will be performed by Dr. Phillips and supervised by Mr. Grader. The task will be completed one month after project commencement.

**Task 1 Budget.** Total: \$ 7,750, CALFED share: \$ 3,164.

**Task 2 Inventory Candidate Sites:** Identify preliminary candidate sites in the Central Valley with willing sellers (e.g., PG&E, SCE dams being sold) for full or partial acquisition and major physical modification/operating regime alteration. Take account not only of the salmon fisheries benefits to be derived, but also the economic, legal-institutional, and watershed management factors that create the opportunity. Draw upon the extensive work in the reports and plans that have been prepared, including "Restoring Central Valley Streams-- Plan for Action", the working papers, drafts, and the AFRP. Discuss the timing and relative priority of the opportunity based on the benefits to the salmon fishery (and multiple species benefits more generally) and with respect to the other factors, such as electric utility restructuring or the timetable of FERC relicensing activities. Integrate reports related to major physical modifications to private dams/diversions:

- USFWS Working Papers, reports, and data (including through the Internet)
- FERC studies and relicensing applications
- California Public Utilities Commission reports and submissions by electric utility

- companies and private electric generators
- California Departments of Water Resources and Fish and Game
- California Water Resource Control Board reports, proceedings, permit records
- Central Valley Regional Water Quality Control Board reports and permits
- U.S. Bureau of Reclamation
- Central Valley Project reports and plans
- Documentation and reports being developed by private groups, such as Friends of the River and the Nature Conservancy

**Deliverable.** A description of specific opportunities and the issues that have to be addressed.

**Schedule.** This task will be performed by Dr. Phillips and completed six weeks after Task 1.

**Task 2 Budget.** Total: \$ 12,710, CALFED share: \$ 5,195.

**Task 3 Develop Template and Analyze Key Issues:** Analyze the technical, ecological, economic and institutional issues and opportunities associated with major physical modifications or changes to the operating regime of dams and diversions not under direct ownership or control of the state or federal governments. Develop a systematic template to identify and analyze the opportunities and issues that could be applied to other sites, including:

- Water rights and associated obligations and requirements
- Water supply contracts and other water agreements (e.g., discharge agreements)
- Power sale conditions, contracts, etc., as affected by the new competitive market conditions in California
- Debt service obligations of owner-operators (e.g., related to loans secured by a revenue stream directly or indirectly from the facility)
- License conditions from FERC and other applicable local, state, and federal agencies
- Water quality and other requirements of applicable permits

**Deliverable.** A template to guide analyses of the technical, ecological, economic, and institutional opportunities and issues that must be resolved as part of major physical changes in dams and diversions not owned or directly controlled by state or federal governments.

**Schedule.** Dr. Phillips will complete this task five months after project commencement.

**Task 3 Budget.** Total: \$ 37,600, CALFED share: \$ 15,352.

**Task 4 Implementing Mechanism:** Identify organizational mechanisms, e.g. modeled after the Nature Conservancy or TPL, to acquire private dams/diversions from willing sellers with fair compensation. Demonstrate the range of financing options, especially those not available to the state or federal governments. Illustrate methods through which the Secretary of the Interior and the local community could form public-private partnerships to carry out projects in cooperation with the new organization. Provide a detailed description of how a new organization could facilitate major physical modifications or changes in operating regimes of dams and diversions such as those identified in the previous tasks. Analyze the opportunity for an existing organization, such as the Nature Conservancy or TPL, to serve the new role. Evaluate how the organization could use the array of public-private partnerships, MOUs, cooperative agreements, cost-share or challenge grant agreements, etc., to undertake projects at private dams/diversions.

The analysis will include consideration of how the organization could operate within the standards set forth in "Conservation Partnerships: A Field Guide to Public-Private Partnering for Natural Resource Conservation". This task will also identify and analyze the ways in which the organization could expand the tools and financial resources available to community groups, state and federal governments, and others involved in salmon restoration and management projects:

- expand the total amount of funding available for salmon projects through its access to a wider range of philanthropic sources and corporations
- increase the number of private owner-operators who are "willing sellers" of water rights or physical assets because the organization would be able to offer financial deals not otherwise available from the state or federal governments-- or, the organization would be able to work with owner-operators that are not able to work directly with the government
- facilitate local watershed workgroups through agreements with the government consistent with the "California Coordinated Resource Planning and Management Handbook"

**Deliverable.** An analysis of new institutional approaches, such as through organizations modeled after the Nature Conservancy or TPL, as an economically feasible approach to work with private owners of dams/diversions in order to achieve either substantial changes in the operating regime of the facility or to make major physical modifications, potentially including removal.

**Schedule.** Performed by Dr. Phillips, the task will be completed four weeks after Task 3.

**Task 4 Budget.** Total: \$ 20,200, CALFED share: \$ 8,248.

**Task 5 Demonstrate the Mechanism:** Demonstrate the role that the nongovernmental, nonregulatory, organization could serve in cooperation with the state and federal governments as it could: (i) implement actions more quickly than the state and federal governments (with their respective budget constraints), (ii) complement ongoing land use and water use planning and management activities for salmon and other multiple species benefits, and (iii) reduce reliance on the uncertain outcomes of indirect approaches to regulate owner-operators for salmon purposes.

Evaluate the innovative, cost effective, and affordable technique that these public-private partnerships offer so that it can be shared with communities and interest groups throughout the Central Valley that are involved in salmon restoration efforts. Demonstrate how this innovative approach expands the "tools" for the Secretary of the Interior, other federal agencies, and state agencies to coordinate the operation and modification of their own dams and diversions with changes at the private facilities. This approach expands the ways in which the Secretary can work within existing authorities to achieve the goals of the CVPIA while working in partnership with the new organization as it, in turn, works with private owners of dams/diversions.

Demonstrate the use of this innovative approach in conjunction with, but reduce reliance on, regulatory approaches (e.g., SWRCB and FERC) to achieve salmon restoration goals. For example, in partnership with state, federal, and community salmon projects, the organization could use its access to innovative financing sources and tools to:

- acquire full or partial interest in dams and diversions



- acquire water rights for salmon
- purchase or compensate for power sale losses
- acquire and restore habitat upstream or downstream from existing dams and diversions
- support communities in their salmon restoration projects, including negotiating water rights deals that would enhance the probability of the success of the restoration project

**Deliverable.** The product of this task will be an analysis of the role of the “new” organization using specific project opportunities identified in Task 2 above as examples.

**Schedule.** Dr. Phillips will complete this task four weeks after Task 4.

**Task 5 Budget.** Total: \$ 15,500, CALFED share: \$ 6,341.

**Task 6 Community Workshops:** Community participation and workshops will present the products from each of the preceding tasks will be distributed to communities, organizations, and individuals involved in salmon restoration actions for their review and comment. Particular focus will be directed toward the groups working in the Battle Creek and Butte Creek projects.

**Deliverable.** Proceedings from workshops and refinements to the template.

**Schedule.** Dr. Phillips will complete this task four weeks after completion of Task 5.

**Task 6 Budget.** Total: \$ 7,500, CALFED share: \$ 3,000

**Task 7 Interagency Advisory Committee:** An advisory committee of local, state, and federal government representatives from the resource agencies and the energy agencies will provide ongoing coordination and advice, beginning in month 1. Coordination will also be conducted on a continuing basis with the Comprehensive Monitoring and Research Program (CMARP).

**Deliverable.** Written and verbal communication among local, state, and federal agencies.

**Schedule.** The Committee will meet/communicate regularly beginning Month 1.

**Task 7 Budget.** Total: \$ 10,000, CALFED share: \$ 4,200.

**Task 8 Peer Reviews and Workshop:** In this task we will obtain additional peer review from the professional/scientific community, owner-operators, regulators, and other interest groups.

**Deliverable.** Summary of results of peer review workshop.

**Schedule.** Dr. Phillips will complete this task in the eleventh month of the project.

**Task 8 Budget.** Total: \$ 8,740, CALFED share: \$ 3,500.

**Tasks that are separable if only a portion of the project were funded.** Tasks 6 and 8 could be postponed until a later time, which would reduce the CALFED request to \$ 42,500.

c. **Location and/or Geographic Boundaries of the Project.** The Battle Creek and Butte Basin areas will be the primary focus of the project for purposes of the case studies. Maps 1 and 2 following illustrate the nature of the opportunity on Battle Creek that will be used to develop a template and institutional mechanism for other watersheds.

d. **Expected Benefits.** This project expands the potential to reduce or eliminate a

significant number of primary stressors, namely water diversions, dams, reservoirs, weirs, and other structures through public-private partnerships and with willing sellers. Improvements to fish passage could be immediate and permanent. Direct beneficiaries will be the projects in the Butte Basin and Battle Creek. Stressors discussed in Attachment C would be reduced. All of the Ecological Zones that have one or more of the dams/diversions in the same watershed that will be sold or subject to FERC relicensing will benefit from the project. Many of the priority, primary and secondary, species listed in Attachment B will benefit (see also Figure 3). Thus, restoration projects of third parties and other CALFED non-ecosystem objectives will benefit.

e. Background and Ecological/Biological/Technical Justification This is a new project, there is no comparable project that will provide a proactive role with positive results in the short time available. A majority of the 127 dams owned by PG&E and SCE will be for sale in the next two years. Dams owned by others will also be offered for sale. More than 50 FERC licenses will expire in the next few years and other obsolete structures offer additional potential.

Discuss how contributes to ERPP objectives/list target(s) met by the proposal. Figures 1, 2, and 3 correlate the project to the objectives, targets, and actions of the ERPP, AFRP, and the "Plan for Action", respectively.

f. Monitoring and Data Evaluation The data for this project will originate from formal documents submitted to the regulatory agencies (e.g., Public Utilities Commission, Fish and Game) and will be subject to peer review and community workshops. The Advisory Committee will provide ongoing coordination with agencies, interest groups, and CMARP. There are no other systematic monitoring/data evaluation projects to provide consideration of new management options for fisheries and other CALFED objectives. All other activities related to the sale of private dams/diversions are ad hoc and case-by-case approaches triggered by the energy regulators (e.g., CPUC and FERC) that will set regulatory precedent, but not in a systematic manner that is designed to maximize benefits for fish passage and other CALFED objectives. Figure 4 below illustrates the relationship of the proposed project to fish passage, fish species, and other priority visions of the ERPP.

g. Implementability The project and the results of not only are implementable, but expand the range of tools available under existing laws and policies for nongovernmental organizations and government agencies that are involved in fish passage improvement and rehabilitation projects. Private owners of hydroelectric facilities are required to comply with CEQA/NEPA as part of their CPUC and FERC applications.

Notably, the project is intended to work with willing private sellers of dams/diversions simultaneously to establish reasonable compensation arrangements while also working within all of the owner's permits, easements, contract obligations, etc. The comprehensive and systematic approach that this project will develop will maximize coordination and cooperation between private dams/diversions, government owned dams/diversions, restoration project managers, and the changes in the electric industry that are being managed by the corresponding energy agencies and energy companies. Without this project, the restructuring of the energy industry and corresponding changes in ownership and management of hydro facilities will continue to be ad hoc and will not benefit from the lessons learned by early projects.

**Figure 1: Relationship Of The Project To The Ecosystem Restoration Program Plan**

KEY: V = Volume (I, II, or III) p = page number

<b>OBJECTIVE OR TARGET TOPIC</b>	<b>IMPLEMENTATION OBJECTIVES &amp; TARGETTED ACTIONS</b>
Ecosystem Element Stressors	Water Diversions Vision V.I, p 14
Ecosystem Element Stressors	Dams, Reservoirs, Weirs, and Other Structures, V.I, p 14
Ecological Zones & Implementation Objectives	Butte Basin listed specifically for Central Valley Streamflows, Natural Sediment Supply, Stream Meander, and Natural Floodplains and Flood Processes, V.I., p20
Central Valley Streamflows	Key flows to Central Valley noted that would benefit from Butte Creek project, V.I., p 27
Natural Sediment Supply	Replenishment of sediment would benefit from Butte Creek project, V.I., p 33
Natural Floodplains and Flood Processes	Modify channel and basin provisions would benefit from Butte Creek project, V.I., p 45
Central Valley Stream Temperatures	Would Benefit from the Butte Creek project, VI,p53
Habitat Visions	Many of the Ecosystem Habitat Elements & Objectives would benefit from the Butte Creek project which is also specifically mentioned, V.I., p79
Riparian & Riverine Aquatic Habitats	Implementation Objectives, V.I., pp 110-112
Species & Species Group Visions	Chinook Salmon and Steelhead Trout specifically mentioned for Butte Basin, V.I., p. 130
Longfin Smelt	Benefit from Butte Basin flows at key times in Delta??, V.I., p141
Chinook Salmon	Maintain adequate flows, restore habitats, eliminate stressors, V.I., p. 154
Steelhead Trout	Restore habitat, improve riparian corridors, sufficient flows, implement actions in each of the 14 ecological zones, one of which is Butte Basin, V.I., p. 160
Bay-Delta Aquatic Foodweb Organisms	Increase late winter and spring Delta outflow, V.I., p181
Reducing or Eliminating Stressors	Water Diversions and Dams, Weirs, Reservoirs, and Other Structures are specifically listed for the Butte Basin, V.I., p. 273
Dams, Reservoirs, Weirs, and Other Structures	Improve fish passage is central, V.I., p. 280
Battle Creek Ecological Unit	Central Valley Streamflow, Natural Sediment Supply, Stream Meander, Natural Floodplain and Flood Processes, Riparian and Riverine Aquatic, Eliminating Stressors, Water Diversions, Dams, Reservoirs, Weirs, and Other Structures, Spring-run & Fall Run Chinook Salmon, Late-Fall-run Chinook Salmon, Steelhead, V.II., pp 177-180
Ecological Processes	Increase streamflow in Battle Creek, V.II., pp 181-182
Habitats, Riparian and Shaded Riverine Aquatic Habitats	Programmatic Action 1C: maintain and restore riparian communities on Battle Creek, V. II., p. 184
Land Use	Target 1: Protect, restore, and maintain ecological functions and processes in the Battle Creek watershed, V. II., p. 186
Spring-run Chinook salmon	Programmatic Action 1A: Actions to restore spring-run chinook and its habitat, V. II., p. 189
Late-Fall-run Chinook Salmon	Programmatic Action 1A: Actions to restore late-fall-run chinook and its habitat, V. II., p. 190
Steelhead	Programmatic Action 1A: Actions to restore steelhead and its habitat, V. II., p. 190

Butte Sink Ecological Unit	Streamflows, Natural Sediment Supply, Stream Meander, Seasonal Wetland Habitat, Riparian and Riverine Aquatic Habitats, Water Diversions, Dams, Reservoirs, and Other Structures, Chinook Salmon, Steelhead, Target 5 (p. 238), Implementation Actions 5A & 6A (p. 238), Target 3, Implementation Action 3A (p.239), Target 4, Programmatic Action 4A (p. 241), Stressors Target 1, Programmatic Actions 1A, 1B, 1C, 1D, 1E (p. 242), Land Use Programmatic Action 1A (p. 243), Dams, etc., Target 4, Programmatic Action 4A, 4B, 4C (p. 244), Chinook Salmon, Programmatic Actions 1A (p.245) & 1A (p. 246), Steelhead Programmatic Action 1A (p. 247), V. II., pp 231-248
Land Use	Target 1, Programmatic Actions 1A & 1B (pp. 273-274)

**Figure 2: Relationship to Anadromous Fish Restoration Plan (Plan)**

The Plan promotes the use of volunteer and negotiated partnerships to carry out specific actions. This project will increase the range of public-private partnerships available to implement the Plan.
The Plan emphasizes and encourages local community and citizen involvement for related water and land management actions. This project will: (a) develop additional avenues for community and citizen involvement through nongovernmental and nonregulatory public-private partnerships, (b) increase the amount of private sector funds available for their efforts, (c) increase the effectiveness of their restoration efforts, and (d) provide for fair and reasonable treatment of existing owner-operators.
The Plan seeks public involvement and cooperation in the design and implementation of action items. This project will increase the avenues for participation for communities, individuals, organizations, and companies. This project will increase the opportunities for positive, constructive approaches to the management or modification of dams and diversions in a way that is fair and reasonable to existing owner-operators.
The "Adaptive Management" intended by the Plan is improved by increasing the constructive and positive involvement in the owner-operator relationship of non-CVP dams and diversions.
The Plan contemplates a flexible approach to restoration so that "unforeseen opportunities can be pursued". This project will develop new opportunities that complement the specific actions in the Plan while also reducing reliance on regulatory or government-financed approaches.
At the present time, implementation of the Plan is dependent on the availability of federal funds. This project will expand the range of sources of funding for action items to include a wider range of private, philanthropic, and corporate sources. For example, this project will develop the opportunities for private funding (or direct donation of dams/diversions) to supplement or even replace federal funding through tax-leveraged deals (which cost the U.S. Treasury less than outright purchase). Some of the Action items were modified or eliminated because it was not clear that there was a private sector partner. This project will identify and analyze new partnering opportunities.
Numerous of the Action items in the Plan are dependent on a "willing seller" (e.g., in order for the government to buy water rights). Some sellers are likely to be "more willing" in circumstances where they can sell to a private party through a tax-leveraged deal. This project will develop a new "private party" mechanism (e.g., modeled after the Nature Conservancy or TPL) for such deals to occur in a cooperative manner with the seller and the government.
The rate of Plan implementation could be accelerated by this project by removing limits on the rate of the federal government's ability to carry out certain actions. For example, the government's rate of implementation is limited by both the availability of personnel and by funding. This project will develop additional sources of both personnel and funding which would work in partnership with the appropriate federal agencies.
The non-biological considerations used in establishing watershed priorities included consideration of the Secretary of Interior's ability to facilitate restoration. This project will expand the Secretary's ability to facilitate restoration by increasing the avenues to establish public-private partnerships where a private partner with the federal government would be able, in turn, to work with another private party (as in the example described above). This project will increase the range of potential partnerships through the "Conservation Partnerships: A Field Guide to Public-Private Partnering for Natural Resource Conservation". We expect that some of the public-private partnerships will not require federal funds, but would use the federal partnership to organize a private sector financial arrangement (e.g., with corporations not wanting to work with the federal government directly).
Preparation of the Plan included numerous studies and "Working Papers". While some of the studies and Working Papers called for major physical modification of certain dams and diversion works, some of the recommendations were deleted from the Plan because there is no existing institutional mechanism or source of funds through which the recommendations could be implemented. Some recommendations were deleted where there is no clear avenue of authority for the Secretary of the Interior to act. This project will broaden both the range of institutional mechanisms and sources of funds through which such recommendations could be implemented. As such, this project will also increase the tools available to the Secretary of the Interior within the Secretary's existing authority.

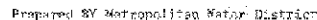
**Figure 3: Relationship to "Restoring Central Valley Streams--Plan For Action"**

The Action Plan provides for "habitat restoration actions" that involve "manipulation and modification" of physical instream structures. This project will provide additional opportunities and mechanisms to undertake modifications of dams and diversions that can be practical from both economic and legal-institutional perspectives for non-state or federal dams and diversions.
Restoration projects downstream are ultimately dependent on the management of upstream dams and diversions unless the owner-operator relationships are altered in a way that simultaneously addresses the salmon's needs in tandem with the fair and reasonable needs of owner-operators. This project will develop new opportunities to change the owner-operator structures in order to give salmon higher priority in water management and to enhance the success of downstream restoration projects.
Less than 300 miles of the original 6,000 miles of Central Valley salmon and steelhead spawning habitat remains today. Restoration projects will always be working with a limited potential quantity of habitat available as long as they must work within existing owner-operator relationships. This project will create the opportunity to obtain more of the original salmon habitat than will be available under existing approaches, thereby complementing the restoration projects already underway or planned.
The Action Plan provides for "administrative activities" that include new agreements, laws, regulations, and "coordinating water management operations". This project will develop additional opportunities and mechanisms to coordinate water management and to negotiate streamflow agreements in ways that provide owner-operators with better economic and legal-institutional choices than they have now. Such new coordination activities and streamflow agreements could also be undertaken through public-private partnerships that would not have to rely on government regulation. The public-private partnership opportunities will be developed as a part of this project.
The Action Plan contains "evaluation activities" associated with restoration and administrative actions. This project will broaden the array of evaluation actions to include a greater number of options with respect to the management of dams and diversions not directly owned or controlled by the state or federal governments.
Many of the priority actions set forth in the Action Plan involve changes in the operation of existing dams and diversions (e.g., to increase downstream flows or to change discharge temperatures). Those that are under the immediate management and control of state or federal agencies are easier-- but not easy-- to implement. Even those, however, have significant water supply and energy considerations. Those dams and diversions that are not under the immediate management and control of state or federal agencies must presently rely on either uncertain negotiations or uncertain regulatory proceedings of other agencies (e.g., SWRCB or FERC). In any case, the uncertainty is further increased by the limited number of choices available to existing owner-operators which thereby limit the regulators' choices. This project will increase the number of nonregulatory choices available to owner-operators. In doing so, this project will also increase the number of choices available to regulators.
A significant number of the priority actions set forth in the Action Plan are presently unfunded and rely on state or federal funds to carry out the action (e.g., purchase of water rights). Future availability of funds is uncertain. This project will increase both the avenues to obtain more funds (through public-private partnerships) and will increase the total amount of funds available (through access to philanthropic and other private sources of funds).
Many salmon restoration projects are being carried out by communities and interest groups. This project will both increase the number of organizations with which they could cooperate and coordinate and will also increase the total amount of funds available for restoration projects.
Many of the communities and interest groups involved in salmon restoration projects are not aware of the full range of restoration opportunities available to them. This project will increase the awareness among communities and interest groups.

**Figure 4: Relationship of Proposed Project To The Visions For Specific High Priority Species and Habitats in the Ecosystem Restoration Program Plan**








<b>Ecosystem Element</b>	<b>Vision</b>	<b>Potential Impact from Project</b>
Chinook Salmon	Achieve naturally spawning population levels ... that fully use existing and restored habitats (V.I., p.11)	Improved fish passage for winter-run, spring, fall, and late fall run salmon; increased area of habitat available for restoration
Steelhead Trout	Achieve naturally spawning population levels ... that fully use existing and restored habitats (V.I., p.11)	Improved fish passage for winter-run, spring, fall, and late fall run salmon; increased area of habitat available for restoration
Dams, Reservoirs, Weirs, etc.	Reduce their adverse effects by improving fish passage (V.I., p. 14)	Create new opportunities for acquisition and/or modification of structures to improve fish passage
Water Diversions	Reduce their adverse effects (V.I., p. 14)	Create new opportunities for acquisition and/or modification of structures to improve fish passage

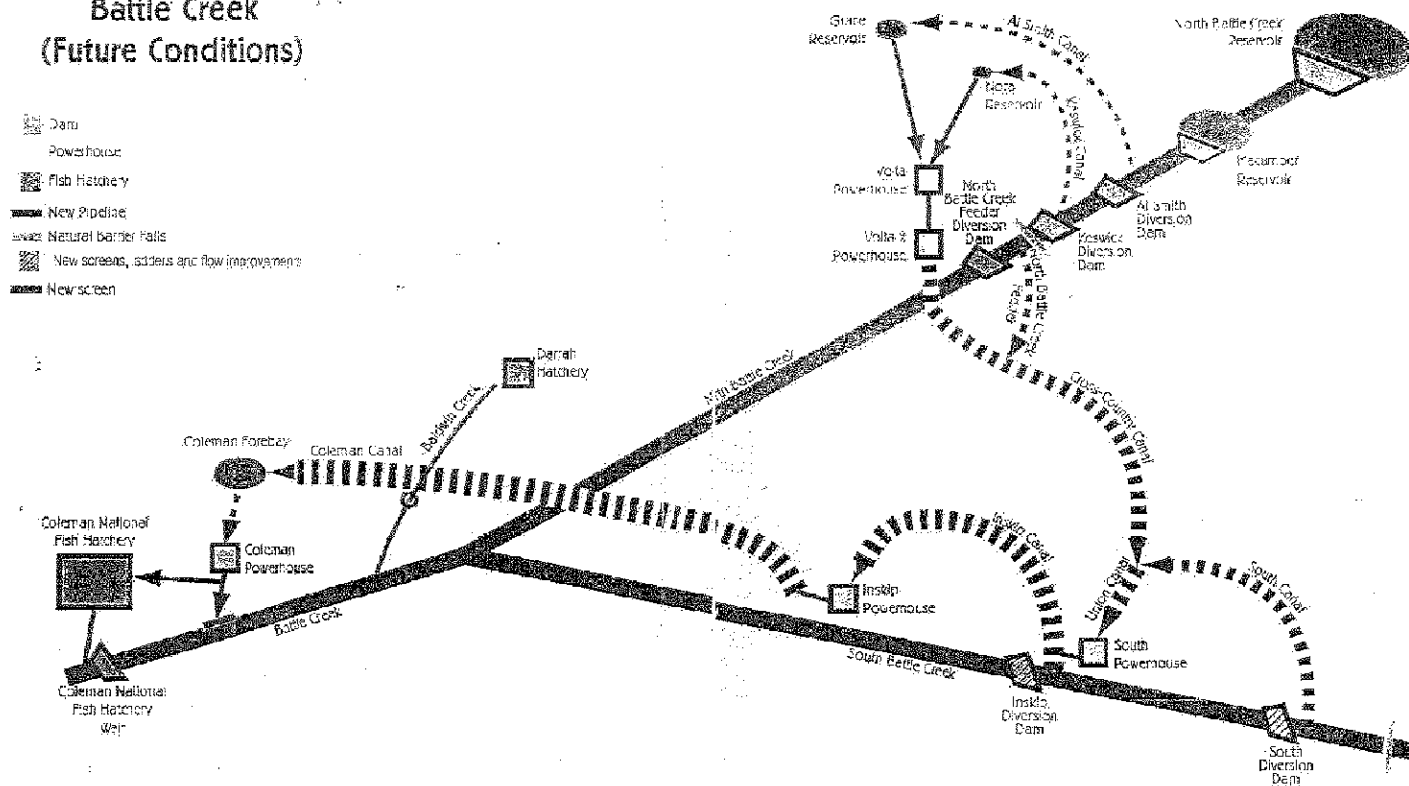
**(Existing Conditions)**





# **Battle Creek (Future Conditions)**

-  Dam
-  Powerhouse
-  Fish Hatchery
-  New Pipeline
-  Natural barrier Falls
-  New screens, sadders and flow improvements
-  Newscreen



Prepared by Metropolitan Water District

1-008163

1-008163

#### IV. Costs and Schedule to Implement Proposed Project

##### a. Budget Costs

**TABLE 1: Cost Breakdown Table**

Project Task	Direct Labor Hours	Direct Salary and Benefits	Overhead Labor	Service Contracts	Material and Acquisition Contracts	Misc. and other Direct Costs	Total Cost	CALFED Cost
Task 1	35	1,371	-0-	5,800	-0-	579	7,750	3,164
Task 2	35	1,371	-0-	10,440	-0-	899	12,710	5,195
Task 3	70	2,742	-0-	32,480	-0-	2,378	37,600	15,352
Task 4	35	1,371	-0-	17,423	-0-	1,406	20,200	8,248
Task 5	35	1,371	-0-	13,108	-0-	1,021	15,500	6,341
Task 6	35	1,371	-0-	5,800	-0-	329	7,500	3,000
Task 7	35	1,371	-0-	8,120	-0-	509	10,000	4,200
Task 8	70	2,742	-0-	5,800	-0-	198	8,740	3,500
TOTAL	350	13,710	-0-	98,971	-0-	7,319	120,000	49,000

If tasks 6 and 8 are postponed, the total cost of the project would be reduced by \$16,240 to \$103,760. The CALFED portion of the total cost requested in this proposal would be reduced by \$ 6,500 to a total of \$ 42,500.

##### b. Schedule Milestones

Task	Description	Schedule (after Award)	Milestone Payments (%)
1	Document the Opportunity	1 month	10%
2	Inventory Candidate Sites	3 months	15%
3	Develop Template and Analyze Key Issues	5 months	20%
4	Implementing Mechanism	6 months	15%
5	Demonstrate Mechanism	7 months	15%
6	Community Workshops	8 months	15%
7	Agency Advisory Committee	Concurrent with Tasks 1-6	
8	Peer Reviews and Workshop	11 months	10%
		Completion	TOTAL: 100%

##### c. Third Party Impacts

Third party impacts are possible to private hydroelectric companies. Some will be affected positively through the reduced adverse environmental effects of their projects. The central purpose of this proposal is to establish a mechanism to fairly compensate those companies that are affected negatively and which are willing sellers of all/part of their facilities.

## **VI. Applicant Qualifications**

The Institute for Fisheries Resources (IFR) is a 501(c)(3) nonprofit corporation based in San Francisco and with offices in Eugene, Oregon. This project will be organized, staffed, and managed in the San Francisco office. IFR is organized with a small permanent staff (President, Vice President, and two administrative assistants).

IFR has years of practical experience in fisheries, fish passage, and restoration projects. IFR has completed six salmon restoration and evaluation projects. IFR presently has salmon restoration and assessment projects underway in the Battle Creek and Butte Creek watersheds. In addition, IFR has had numerous other similar projects in the Central Valley and North Coast regions of California, Washington, and Oregon.

*Dr. Phillips is the Principal Investigator on the project. He has more than 26 years experience working on comparable projects beginning in 1972 when he worked on the first FERC relicense application. He is the former Assistant Secretary for Resources, California Resources Agency where he was directly involved in water resource management, statewide energy issues, and salmon restoration. He has worked in California, other states of the U.S., and internationally on the economics and legal-institutional aspects of water resource and fisheries management, including instream valuation, legal mechanisms for stream management, State Water Project and Central Valley Project plans, management and evaluations, public-private partnerships (including for example, the California Renewable Resource Investment Fund). Other example clients/projects include: the (California) Governor's Task Force on Water Rights Law, the San Francisco Estuary Comprehensive Conservation Management Plan, and the Santa Monica Bay Restoration Plan, and the California Urban Water Conservation Council.*

Dr. Phillips is also an expert on the California electric and hydroelectric sector. He has served as an expert for the State Legislature, California Public Utilities Commission (CPUC), the California Energy Commission (CEC), and FERC. He has been a consultant to private organizations (e.g., utilities and private electric generators). In addition, he has served as an expert witness in CPUC proceedings.

Dr. Phillips has authored or co-authored more than 80 publications and technical reports on related topics on the economic and institutional aspects of water resource, fisheries, and energy projects, including avenues for public-private partnerships to address critical needs. His resume' is attached in Appendix A.

Any conflicts of interest. IFR and the individuals assigned to this project have no associated conflicts of interest.

## **VII. Compliance with standard terms and conditions.**

IFR agrees with, and is in compliance with the applicable standard terms and conditions as set forth in Attachment D of the Proposal Solicitation Package. The applicable Nondiscrimination Compliance Statement and Noncollusion Affidavit at attached herein as Appendix B.

## APPENDIX A

### VITA

GUY D. PHILLIPS

May 8, 1998

61 Greenbrae Boardwalk  
Greenbrae, CA 94904

TELE: 415-461-5530 FAX: 415-461-5420  
email: guyphil@ix.netcom.com

### ENERGY, ENVIRONMENT, & COMMUNITY DEVELOPMENT

Environmental management, assessments, financing, public-private partnerships  
Energy, water, and land resource evaluation, *strategic planning*  
Private power development, program and project design and evaluation  
Energy efficiency studies, program design, financing, and institutional development  
Financial analysis, economic assessments, feasibility studies, benefit/cost analysis, training  
Project identification, design, appraisal, feasibility studies, post-evaluations  
Socio-economic and environmental impact assessments  
Privatization design, financing, and implementation  
Drafting policies, legislation, regulations, and procedures  
Organizational development, assessment, and strategic planning  
Renewable energy and appropriate technology design, feasibility, and financing  
Environmental law evaluation, drafting, and training  
Institutional development and preparation of energy/environmental action plans  
Coastal resource management, planning, implementation, and financing  
Regional planning, park and natural resource management planning, implementation, and financing  
Workshop and public involvement processes, organization and performance  
Training and Seminars, community education

### EDUCATION:

B.A. Economics, University of Wisconsin, 1971  
M.A. Resource Economics, University of Wisconsin, 1973  
Ph.D. Economics and Law, Univ. of Wisconsin, 1976

President and Chairman of the Board, Energy Resources International, Inc., a California corporation which provides training, energy management and environmental policy, and planning and technical assistance to public sector agencies and private firms. Dr. Phillips' has specialized in sustainable energy development assistance in the U.S. and 31 other nations for more than 20 years. 1984 - present.

### Energy Sector

Dr. Phillips has worked in the electric utility planning area for more than 25 years and has been

intensively involved in the policy and regulatory reforms in numerous countries and states of the U.S. since the 1970s. He has assisted utility organizations and regulators develop and implement strategic planning systems, least cost and integrated resource planning systems and supporting computer modeling systems, and has served on numerous projects with the Asian Development Bank, USAID, and the World Bank institutional development projects to assist governments and their electric utilities develop modern utility management and decision making systems based on commercial practices and rational transparent decision making processes which maximize the accountability of each of the decision makers and managers.

Dr. Phillips has served as an advisor to U.S. and other governments in a wide range of energy policy, regulation, and strategic planning (including integrated resource planning) on topics including: reform of management and financial performance of utility companies, tariff design and reform, private power development, "commercialization" and privatization, renewable energy development,

Dr. Phillips has worked both as a consultant to private power projects in numerous countries around the world. He has also been a private power project developer. He has very extensive experience in the practical policy, legal, regulatory, financial, and technical aspects of private power development in all types of countries, including past and present socialist economies. For example, his work with the Global Power Forum entails direct assistance to 33 of the world's largest independent power producers to assist with project development strategies and activities throughout the world.

Dr. Phillips has also advised numerous states and countries on private power development policies, procedures, pricing, and incentive arrangements. Dr. Phillips has assisted with the design of policy and regulatory/procedural frameworks, including drafting the implementation laws, etc., and providing training for technical and management personnel.

#### Environment, Natural Resources, and Community Development

Dr. Phillips has conducted environmental and fisheries management studies and designed programs and financing strategies, particularly in the area of management of sensitive areas. He has conducted environmental impact assessments, designed rehabilitation and mitigation programs, and designed corresponding financing mechanisms.

Dr. Phillips has designed and implemented public-private partnerships for investment projects (including debt-for-nature swaps) to achieve environmentally sound sustainable economic development. Dr. Phillips has designed such projects for national parks, coastal regions, fisheries development, and rural industrial development. His work includes developing land use and regional master plans to implement the programs. Such ventures have been utilized to organize capital, to undertake technology transfers and training, and to establish financial arrangements to ensure the ongoing operations and maintenance of the completed projects.

For more than 20 years, Dr. Phillips has been a pioneer in developing innovative environmental plans. For example, in his recent work on the plans for the restoration of San Francisco Bay-Delta Estuary and the Santa Monica Bay of California, he developed innovative public-private partnerships and financing mechanisms to implement the plans. Similarly, Dr. Phillips has worked with major US

energy project developers to incorporate international carbon management projects to offset their CO2 emissions as part of their energy projects as a way to be environmentally responsible energy companies.

On a broader scale, Dr. Phillips has designed public-private partnerships to address global warming issues in a proactive, nonregulatory manner. With respect to CFC, CO2, and other emissions, Dr. Phillips has developed mechanisms for economically sustainable public-private partnerships to introduce optimum technologies.

Dr. Phillips has served as expert witness in judicial and regulatory proceedings with respect to energy and environmental matters. He was the only "outside" expert used in the proceedings on the decommissioning of the Humboldt Bay Nuclear Power Station. He developed an innovative program to finance the environmental and other requirements associated with the long term issues of decommissioning.

Principal Consultant, State of California Legislature. Advisor to the leadership of the State Legislature. Responsible for development of legislative policy initiatives in energy utility reform and privatization, environmental, natural resources, and economic development subject areas. Wrote more than 40 pieces of legislation; developed policy and programs with respect to economic development, energy supply, environmental regulation. 1982 - 1985.

Assistant Secretary for Resources, State of California Resources Agency. Provided policy and program support to the Secretary, the Governor, and the State Legislature on the management of California's energy and natural resources. The Resources Agency is responsible for State energy resources, air and water quality planning and management, pollution control, fish and wildlife, water, forestry, mining, oil, parks, navigation, solid waste management, coastal management, and the California Conservation Corps. The Agency had an annual budget of about \$1.2 billion and a staff of about 14,000. Provided management, policy counsel, program research and development, agency administration, and performed technical economic analysis on resource issues. De facto Secretary of Energy and Ex Officio member of the California Energy Commission.

Specifically responsible for the design, development and implementation of the Salmon Restoration Investment Program, the Renewable Resource Investment Fund (\$500 million) and the Energy Resources Fund (\$400 million), which originated public-private sector investment partnerships for natural resource management and restoration. 1979 - 1981.

Associate Professor, California State University, Sacramento, Master's Degree program. Taught graduate degree courses in environmental economics, planning, benefit/cost analysis, environmental law, and international environmental problems. 1979 - 1984 (part-time).

Chair, Masters Degree Program in Environmental Administration, Graduate School of Administration, University of California, Riverside. Professor, taught courses in economics, resource economics, environmental law and management, environmental and land use planning, and environmental impact analysis. Managed the graduate program and three research grants. 1976 - 1979

Chief, Local Fiscal policy Section, and Chief Economist, Wisconsin Department of Revenue.  
Supervised a professional staff responsible for policy and program development for the Governor in the areas of natural resource policy, state-local finance, agricultural lands preservation, property taxation, property tax relief, revenue sharing, school finance, mining and transportation finance. 1974 - 1976

Principal Investigator, University of Wisconsin, Institute for Environmental Studies, to examine the socio-economic and environmental effects of a large dam project in a rural agricultural area with a depressed economy. Responsible for all aspects of project management, including supervision of land use planning issues of the project, technical research performance, personnel supervision, budgeting, and reporting to project sponsors. 1972 - 1974

Legislative and Research Assistant to the Chairman of the Wisconsin State Legislature's Committee on Natural Resources. Responsible for energy, land use planning policy, forestry, public lands, agricultural lands, air and water pollution. 1970 - 1972

#### PUBLICATIONS AND REPORTS

Author or Co-author on more than 90 technical reports, publications, and research reports on environmental, fisheries, energy, and water resource management.

# NONDISCRIMINATION COMPLIANCE STATEMENT

ITEM 7

COMPANY NAME

Institute for Fisheries Resources

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code of Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and the development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

## CERTIFICATION

*I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on the date and in the county below, is made under penalty of perjury under the laws of the State of California.*

OFFICIAL'S NAME

William F. Grader, Jr.

DATE EXECUTED

July 1, 1998

EXECUTED IN THE COUNTY OF

San Francisco

PROSPECTIVE CONTRACTOR'S SIGNATURE

*William F. Grader, Jr.*

PROSPECTIVE CONTRACTOR'S TITLE

Executive Director

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

Institute for Fisheries Resources



Agreement No. \_\_\_\_\_

Exhibit \_\_\_\_\_

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY  
 BIDDER AND SUBMITTED WITH BID FOR PUBLIC WORKS

STATE OF CALIFORNIA )  
 )ss  
 COUNTY OF Marin )

William F. Grader, Jr. , being first duly sworn, deposes and  
 (name)

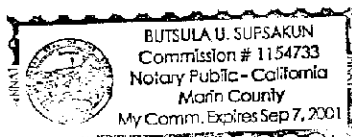
says that he or she is Executive Director of  
 (position title)

Institute for Fisheries Resources  
 (the bidder)

the party making the foregoing bid that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

DATED: 1 July 1998

By William F. Grader  
 (person signing for bidder)



(Notarial Seal)

Subscribed and sworn to before me on

July 1 1998  
Robert H. [Signature]

(Notary Public)